A SYSTEM AND METHOD FOR MONITORING COMMUNICATION NETWORKS USING DATA STREAM CHARACTERIZATIONS

ABSTRACT OF THE INVENTION

A system and method for automatically monitoring communications networks and for determining network configuration use data stream characterizations. The system comprises a plurality of measurement probes that passively probe the network and collect data packets carried by data streams in the network. The system further comprises characterization computational units that process the collected data packets and produce data stream characterizations from the collected data packets. The data stream characterizations represent individual data streams in an arbitrarily unique manner. The system still further comprises a configuration processing unit that compares data stream characterizations taken at different points in the network and determines data stream paths through the network based on data stream characterization matching. The method for automatically monitoring communications networks comprises the steps of passively probing the data streams to produce sets of collected data packets from the data streams, determining data stream characterizations from the collected data packets, and comparing the data stream characterizations to one another to identify matching characterizations.